399-3-26 (C6203)
Log Data Report

Borehole Information:

Borehole:	399-3-26 (C6203)		Site:	300-FF-5	
Coordinates (WA St Plane)		GWL[1] (ft):	31.7	GWL Date:	05/16/08
North (m)	East (m)	Drill Date	TOC[2] Elevation	Total Depth (ft)	Type
116034.6871	594239.606	05/16/08	Unknown	66.0	Sonic

Casing Information:

Casing Type	Stickup (ft)	Outer Diameter (in.)	Inside Diameter (in.)	Thickness (in.)	Top (ft)	Bottom (ft)
Threaded Steel	3.90	7 5/8	6 7/8	3/8	-3.9	56.8

Borehole Notes:

Well site geologist reported depth to bottom, depth to water and depth of casing. Logging engineer measured casing diameter employing a steel tape and rounding to the nearest 1/16-in. The zero reference is the ground surface.

Logging Equipment Information:

Logging System:	Gamma 1 N		Type: / Serial No.:	60% HPGe SGLS / 45TP22010A
Effective Calibration Date:	03/28/08	Calibration Reference:	HGLP-CC-031	
		Logging Procedure:	HGLP-MAN-002, Rev. 0	

Logging System:	Gamma 1 M		Type: / Serial No.:	NMLS / H340207279
Effective Calibration Date:	05/06/08	Calibration Reference:	HGLP-CC-032	
		Logging Procedure:	HGLP-MAN-002, Rev. 0	

Spectral Gamma Logging System (SGLS) Log Run Information:

Log Run	1	2 Repeat
Date	05/19/08	05/19/08
Logging Engineer	McClellan	McClellan
Start Depth (ft)	0.0	60.0
Finish Depth (ft)	60.0	54.0
Count Time (sec)	200	200
Live/Real	R	R
Shield (Y/N)	N	N
MSA Interval (ft)	0.5	0.5
Log Speed (ft/min)	N/A	N/A
Pre-Verification	AN074CAB	AN074CAB
Start File	AN074000	AN074121
Finish File	AN074120	AN074133
Post-Verification	AN074CAA	AN074CAA
Depth Return Error (in.)	N/A	0
Comments	Fine gain adjustment made before –063 & -103.	No fine gain adjustment made. Repeat Section

Neutron Moisture Logging System (NMLS) Log Run Information:

Log Run	3	4 Repeat
Date	05/20/08	05/20/08
Logging Engineer	McClellan	McClellan
Start Depth (ft)	0.0	29.25
Finish Depth (ft)	29.25	26.0
Count Time (sec)	15	15
Live/Real	R	R
Shield (Y/N)	N	N
MSA Interval (ft)	0.25	0.25
Log Speed (ft/min)	N/A	N/A
Pre-Verification	AM002CAB	AM002CAB
Start File	AM002000	AM002118
Finish File	AM002117	AM002131
Post-Verification	AM002CAA	AM002CAA
Depth Return Error (in.)	N/A	0.5 high
Comments	None	Repeat Section

Logging Operation Notes:

Data were collected using Gamma 1, HO 68B-3574. SGLS pre- and post-survey verification measurements were acquired in the Amersham KUTh-118 field verifier. Maximum logging depth achieved was 60.0 ft. A centralizer was installed on the sondes. NMLS pre- and post-survey verification measurements were acquired in the AmBe standard.

Analysis Notes:

Analyst:	LEGLER	Date:	6/24/08	Reference:	GJO-HGLP 1.6.3, Rev. 0

The pre- and post-survey verification met the acceptance criteria for the established systems. A casing correction for a 3/8-in. thick casing was applied to spectral log data (SGLS) from ground surface to 56.8 ft, leaving 3.2 ft of open borehole uncorrected.

SGLS spectra were processed in batch mode using APTEC SUPERVISOR to identify individual energy peaks and determine count rates. Concentrations were calculated with an EXCEL worksheet template identified as G1NMar08.xls using efficiency functions and corrections for casing, dead time and water as determined by annual calibrations.

Moisture data are presented in counts per second (cps) because no calibration data exist for a 6 7/8-in. inner diameter casing.

Results and Interpretations:

Cs-137 and U-238 (Pa-234m) were detected at several depths in this borehole. Inspection of the individual spectra at these depths indicates that these detections are statistical fluctuations and are not valid. Plots of the MDLs for manmade radionuclides (Cs-137, U-235, and U-238) are provided.

Depth to groundwater was reported to be 31.7 ft on 5/16/08. However, log data collected on 5/19/08 (SGLS) and 5/20/08 (NMLS) indicate a depth to ground water of approximately 29.5 ft. The depth to groundwater appears to fluctuate with the level of the river.

A fine grain sediment layer can be seen at around 15 ft, as seen by an increase in total gamma, and reflected in the K-40 and U-238 plots.

The KUT and Moisture plots indicate good repeatability.

List of Log Plots:

Depth Reference is ground surface

Manmade Radionuclides
Natural Gamma Logs
Combination Plot
Total Gamma & Dead Time
Total Gamma & Moisture
Repeat Section of Natural Gamma Logs
Moisture Repeat Section

[1] GWL – groundwater level
[2] TOC – top of casing

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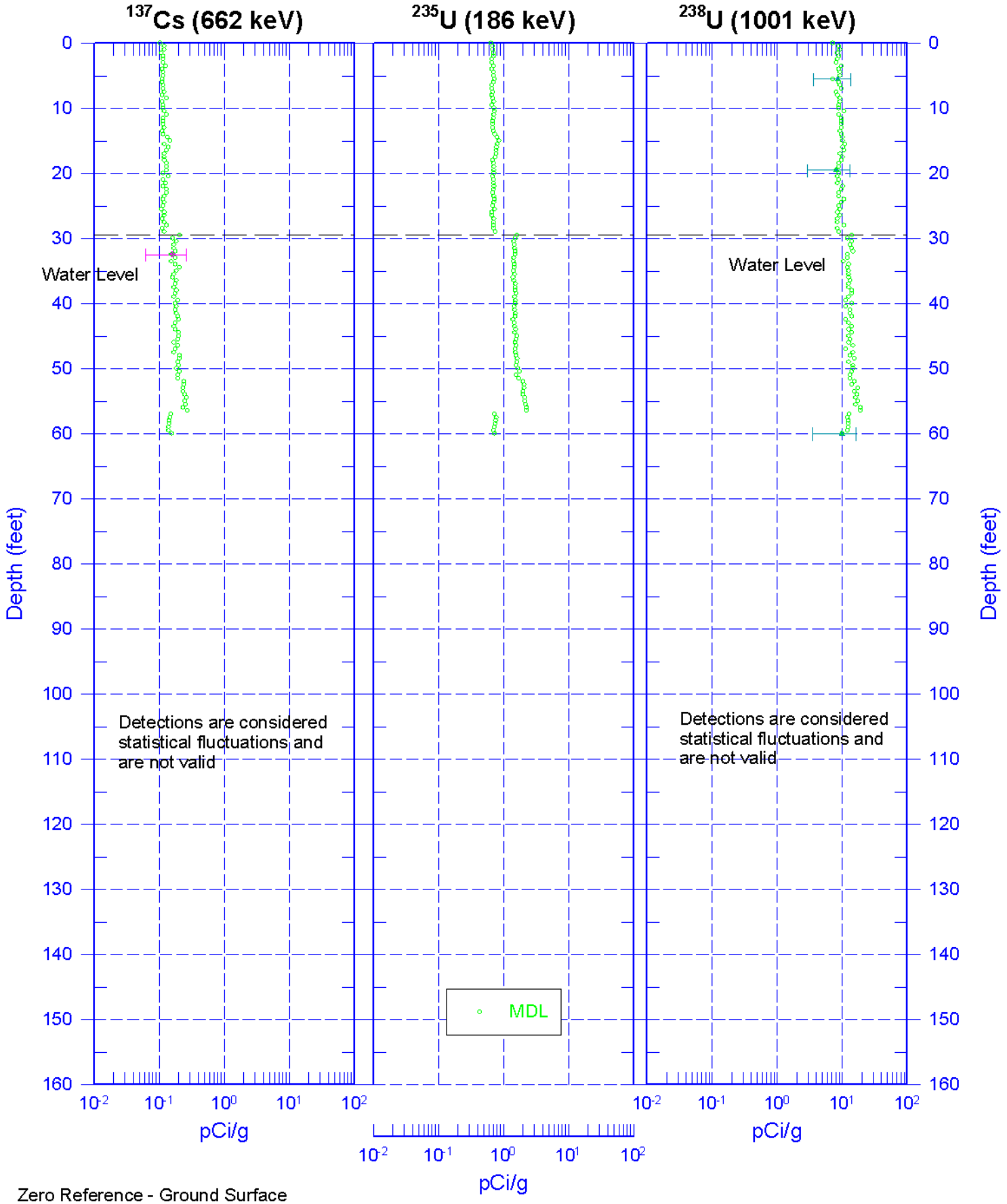
399-3-26 (C6203)
Manmade Radionuclides



Zero Reference - Ground Surface

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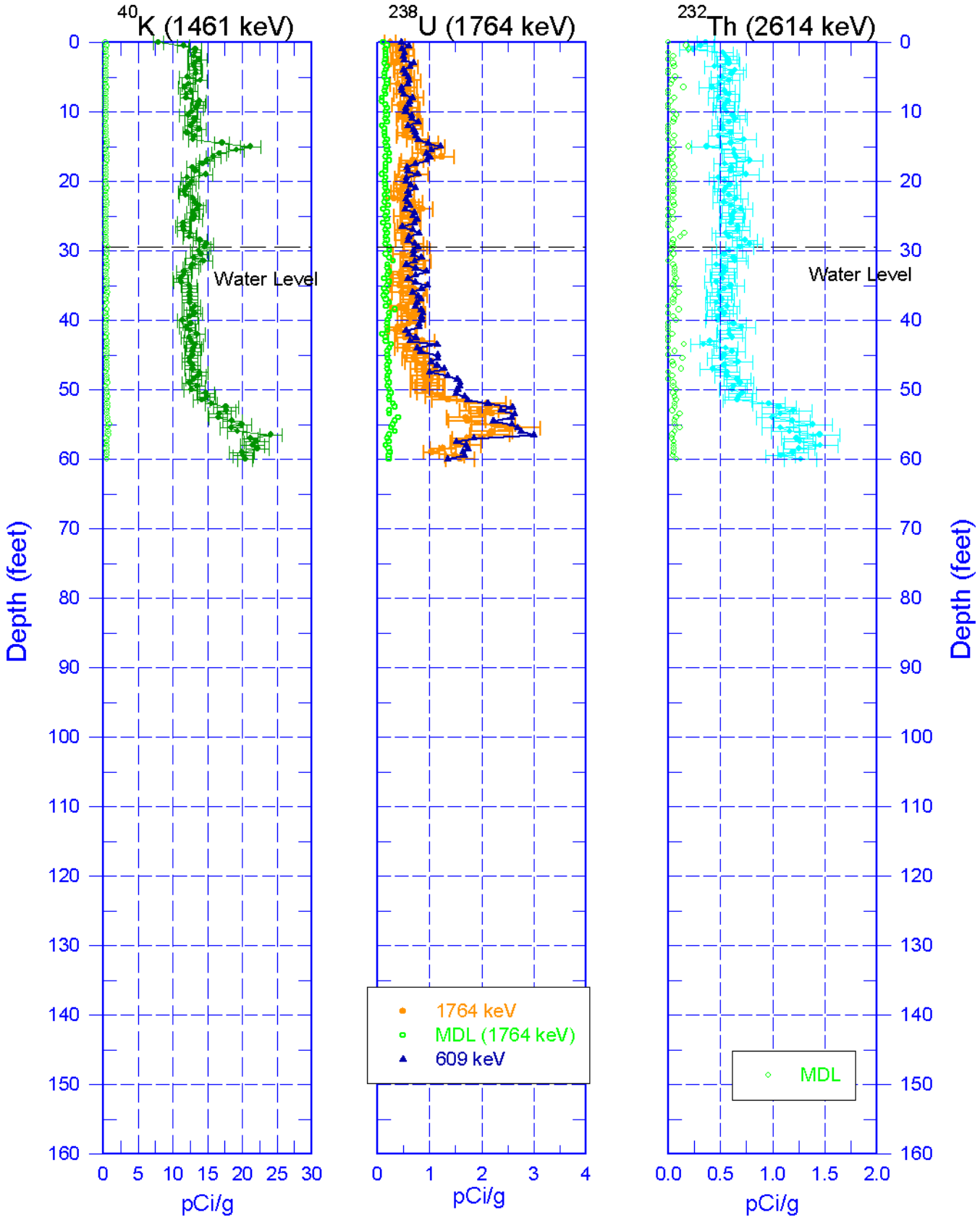
399-3-26 (C6203)
Natural Gamma Logs



Zero Reference - Ground Surface

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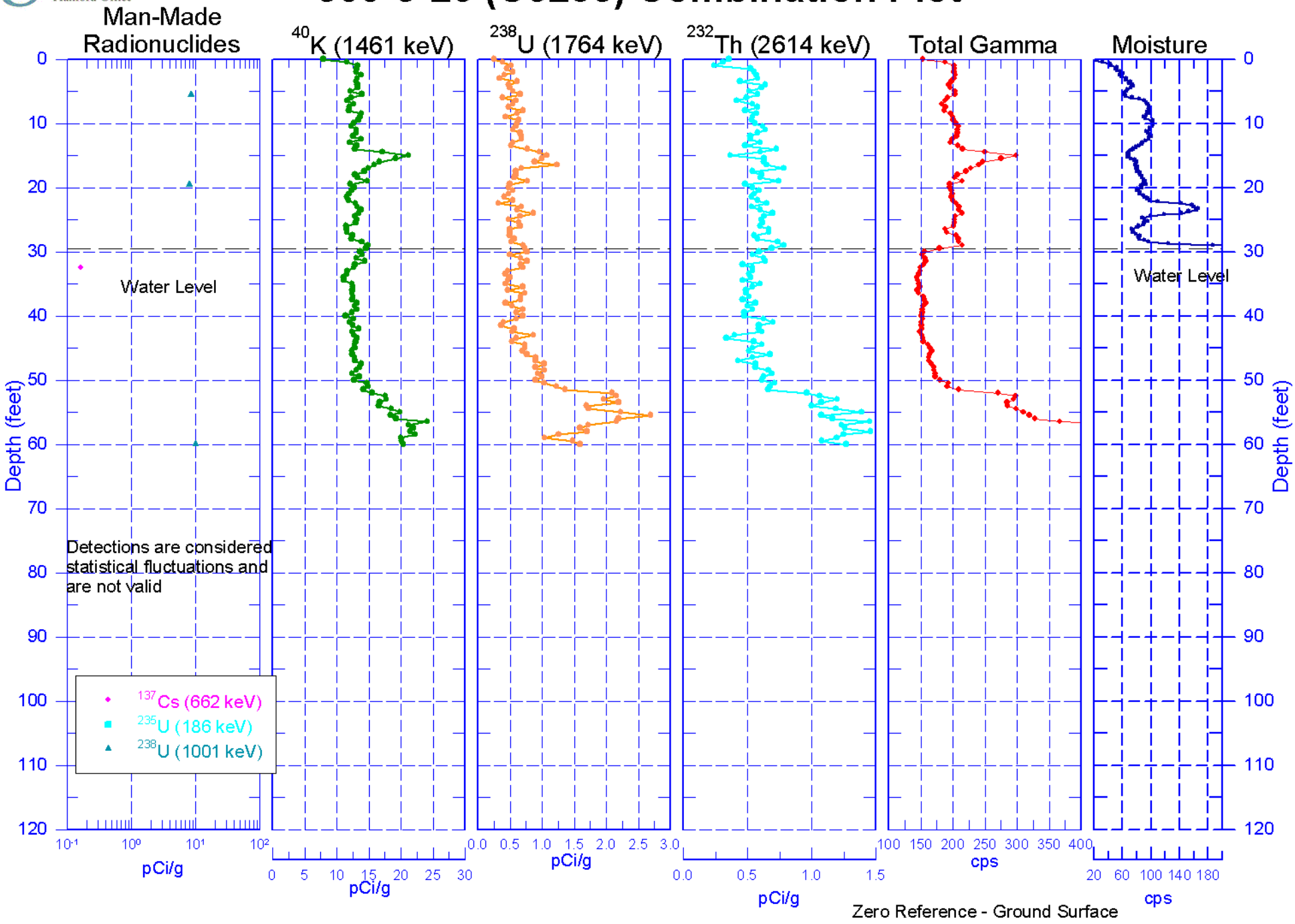
399-3-26 (C6203) Combination Plot



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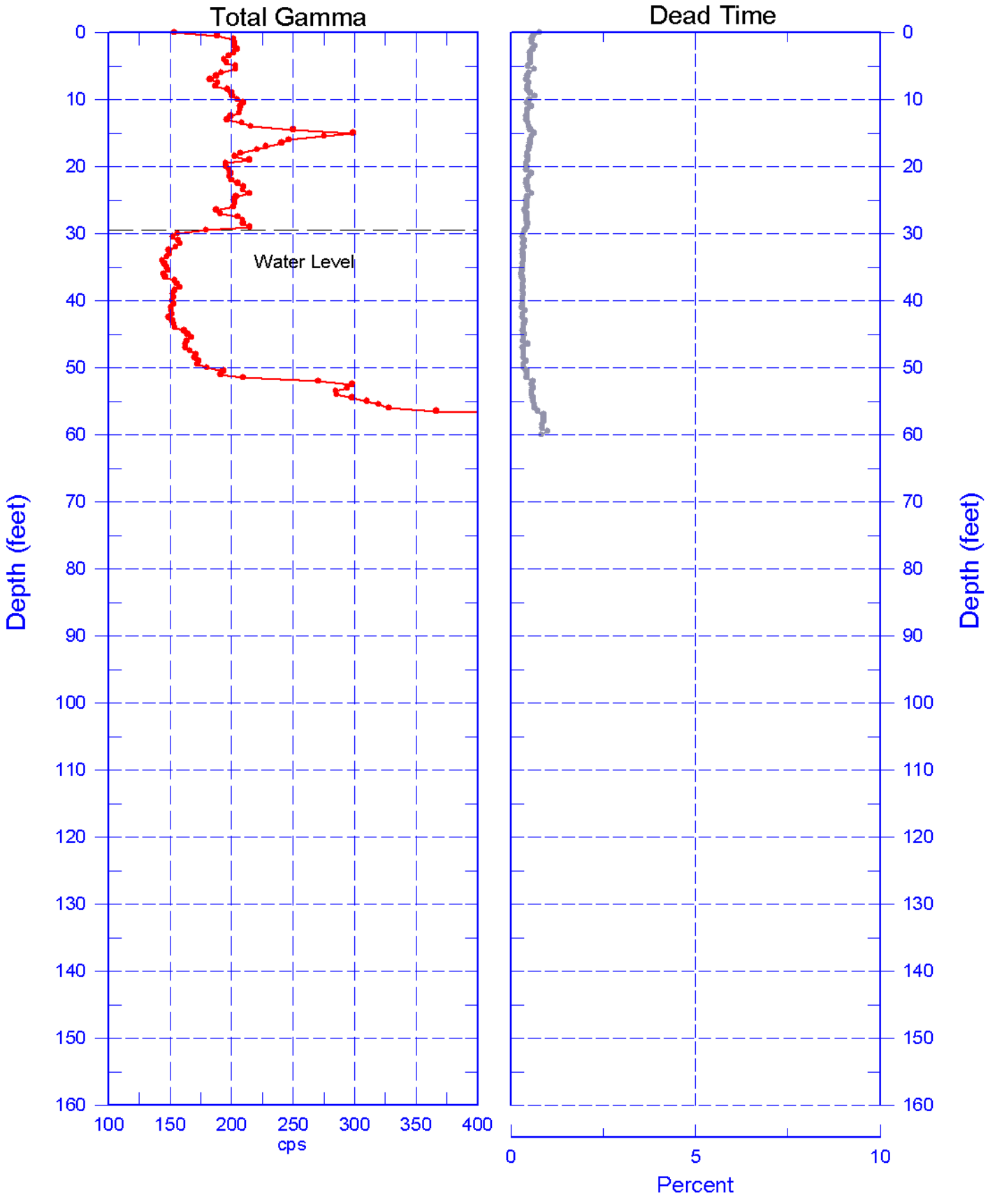
399-3-26 (C6203)
Total Gamma & Dead Time



Reference - Ground Surface

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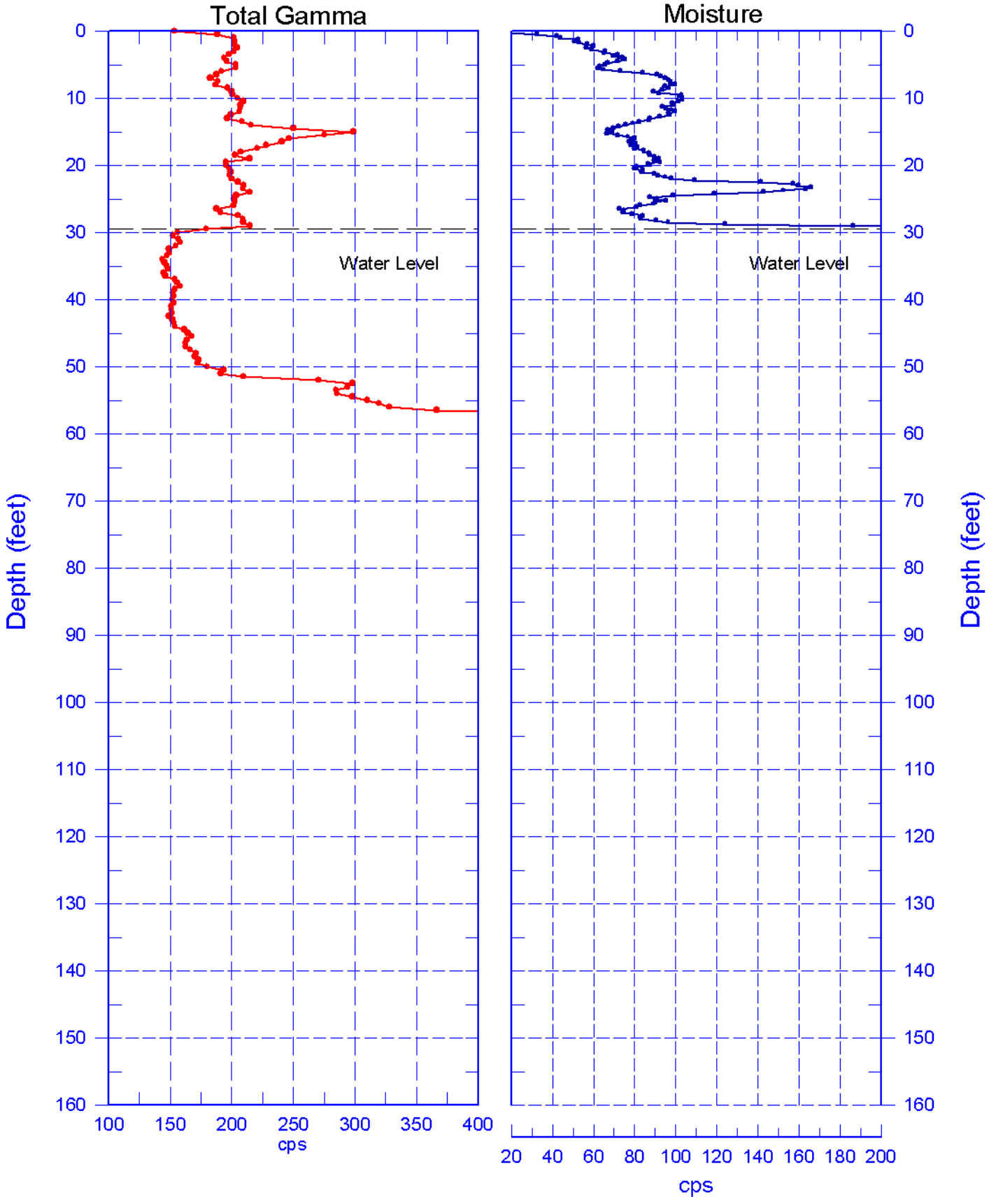
399-3-26 (C6203)
Total Gamma & Moisture



Reference - Ground Surface

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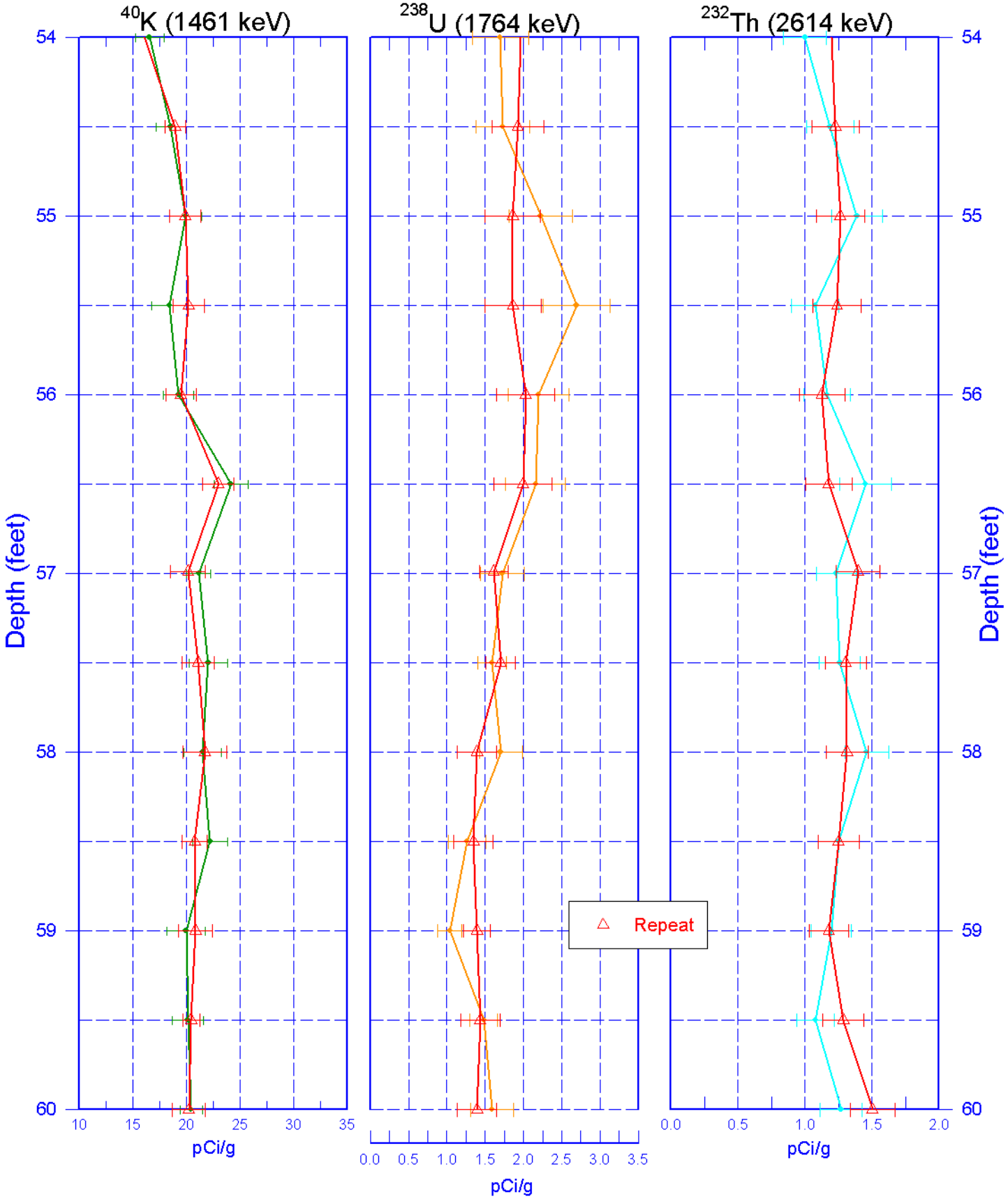
399-3-26 (C6203)

Repeat Section of Natural Gamma Logs



Zero Reference - Ground Surface

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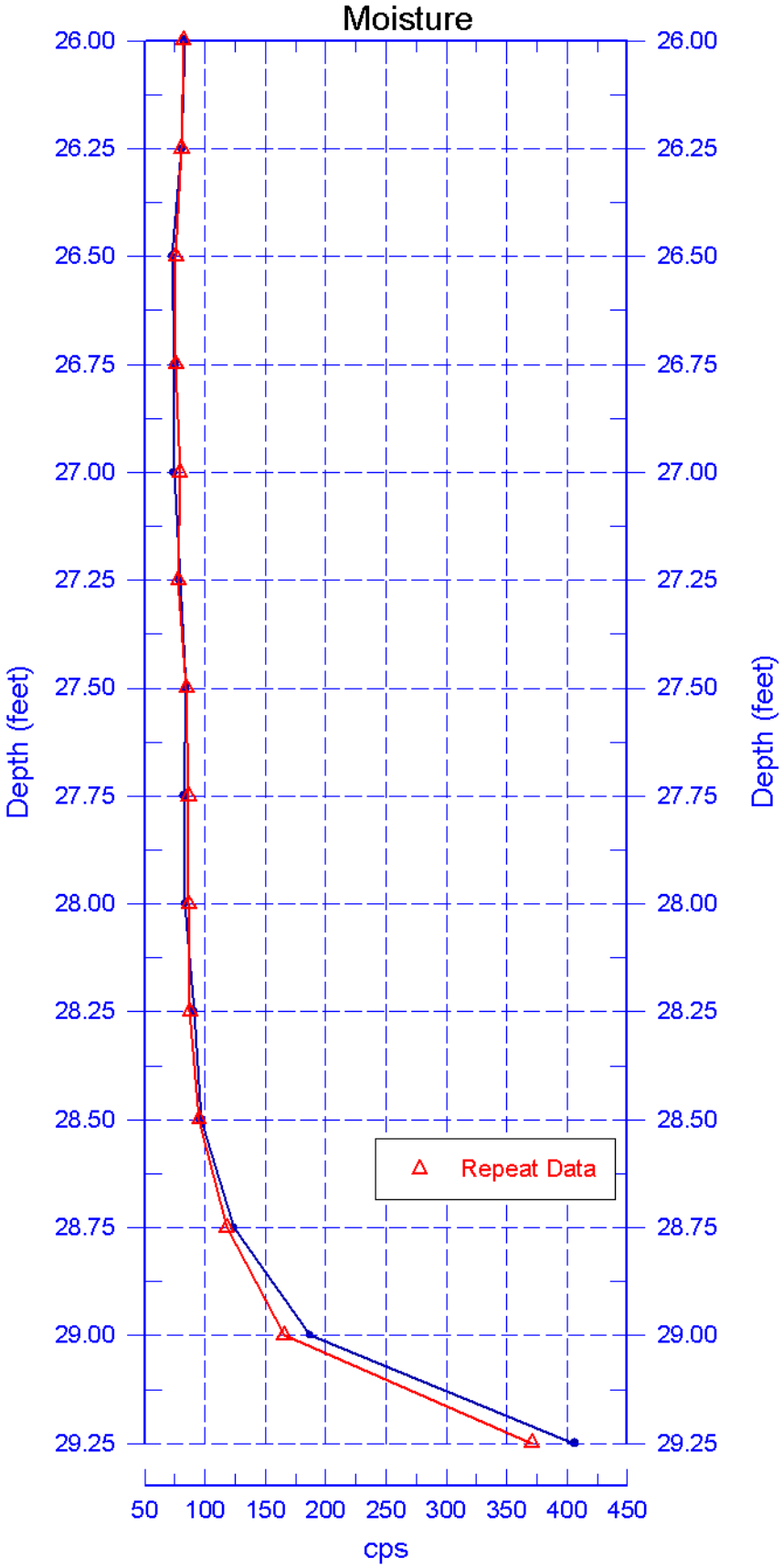
399-3-26 (C6203)
Moisture Repeat Section



Reference - Ground Surface